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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,813	02/15/2002	Reinaldo Mario Machado	06206 USA	2044

23543 7590 01/25/2005

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PATENT DEPARTMENT
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EXAMINER	
PUTTLITZ, KARL J	
ART UNIT	**PAPER NUMBER**
1621	

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/076,813	MACHADO ET AL.	
	Examiner	Art Unit	
	Karl J. Puttlitz	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) *1-7* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/19/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group II, claims 8-12 in the reply filed on November 3, 2004is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Therefore, claims 1-7 are withdrawn from consideration.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term said autoclave in claim 8 lacks antecedent basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

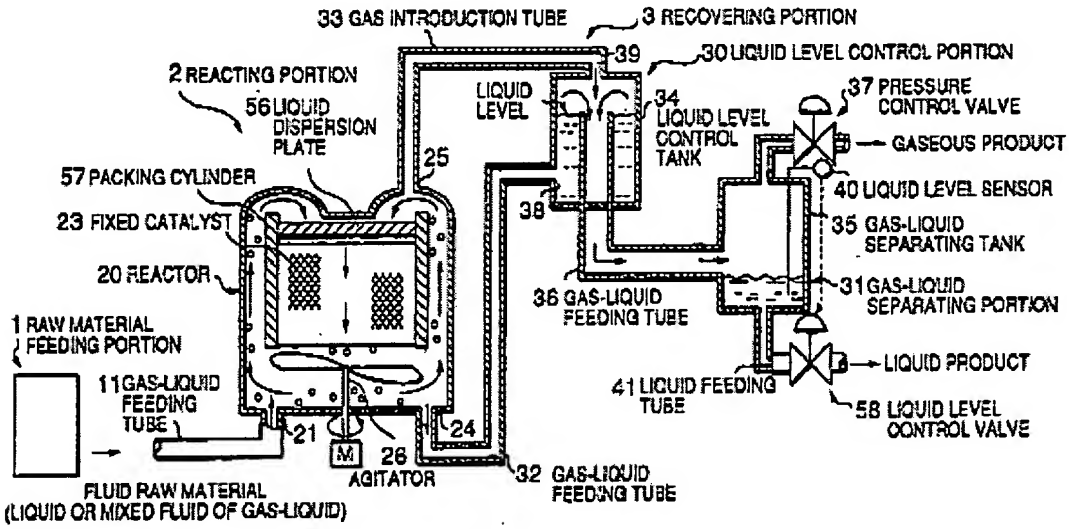
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,086,832 to Ohta (Ohta).

The claims of the application are drawn to, inter alia, a process for carrying out a reaction between a reactant gas and reactant liquid in a stirred tank having at least a portion of reactant gas residing in a headspace portion of said autoclave, the improvement which comprises: inserting a fixed bed catalyst holder in said tank comprised of a housing having an open top and open bottom portion supportably maintained with said tank, said housing having a substantially outwardly extending, horizontal baffle near its top portion and adapted for substantial sealing engagement with the interior wall of said tank, said baffle having a least one perforation in its surface, and said housing having at least one side wall perforation in the wall near its upper portion permitting flow from the interior of the housing to said tank; supportably retaining a fixed bed catalyst within said housing permitting both liquid and reactant gas flow therethrough, extending an agitator shaft into said substantially adjacent the tank and terminating in a turbine blade side wall perforation in the wall of said housing, said agitator haying a gas passageway including an opening in the headspace portion of said autoclave and terminating in an opening adjacent the turbine blade; effecting agitation at a point adjacent the side wall perforation in the wall of said housing causing liquid and reactant gas to be passed from the interior of the housing through the perforations to the interior of the autoclave', drawing reactant gas hydrogen from the headspace in said autoclave through a passageway in said agitator to a point adjacent the turbine', forcing a mixture of

reactant liquid and reactant gas via baffling from a point adjacent the side wall perforations in said housing to the inlet of the fixed bed catalyst by means of baffles extending from the top to at least the bottom portion of said housing', and then, reacting the mixture of reactant gas and reactant liquid.

Ohta teaches a reaction apparatus, which is illustrated, for example in figure 1.:



Ohta teaches at the description bridging columns 5 and 6 that As the raw material feeding portion 1 for feeding a fluid raw material, as far as it has a function of continuously feeding a liquid raw material or a mixed raw material of a gas and a liquid, there is no special limitation. For example, there is exemplified a raw material feeding portion which has a liquid raw material feeding portion and a gas raw material feeding portion and which is capable of switching the fluid to be fed. By structuring in this manner, a fluid raw material to be fed to the next

reacting portion 2 can be made into three kinds of a gas, a liquid and a gas-liquid mixture.

Further, as a gas raw material fed from the gas raw material feeding portion, for example, a reaction gas such as a hydrogen or inert gas and the like whose pressure is increased to a reaction pressure by a compressor, a bomb, etc. and whose flow rate is controlled by a flow meter, etc. can be exemplified.

The difference between the process set forth in Ohta and the process covered by the rejected claims is that Ohta does not specifically teach those nitroaromatic compounds set forth in the claims. However, one of ordinary skill would have been motivated to modify the disclosure of Ohta to include hydrogenation of the specifically claimed nitroaromatic compounds since Ohta teaches that the disclosed apparatus is suitable for hydrogenation reactions, and those of ordinary skill would necessarily include hydrogenation of the claimed nitroaromatic compounds.

Therefore, the rejected claims are prima facie obvious in view of Ohta since the reference teaches the claimed process with a reasonable expectation of success.

Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent Application Publication No. 2002/0081254 by Boger (Boger).

The claims of the application are drawn to, inter alia, a process for carrying out a reaction between a reactant gas and reactant liquid in a stirred tank having at least a portion of reactant gas residing in a headspace portion of

said autoclave, the improvement which comprises: inserting a fixed bed catalyst holder in said tank comprised of a housing having an open top and open bottom portion supportably maintained with said tank, said housing having a substantially outwardly extending, horizontal baffle near its top portion and adapted for substantial sealing engagement with the interior wall of said tank, said baffle having a least one perforation in its surface, and said housing having at least one side wall perforation in the wall near its upper portion permitting flow from the interior of the housing to said tank; supportably retaining a fixed bed catalyst within said housing permitting both liquid and reactant gas flow therethrough, extending an agitator shaft into said substantially adjacent the tank and terminating in a turbine blade side wall perforation in the wall of said housing, said agitator haying a gas passageway including an opening in the headspace portion of said autoclave and terminating in an opening adjacent the turbine blade; effecting agitation at a point adjacent the side wall perforation in the wall of said housing causing liquid and reactant gas to be passed from the interior of the housing through the perforations to the interior of the autoclave', drawing reactant gas hydrogen from the headspace in said autoclave through a passageway in said agitator to a point adjacent the turbine', forcing a mixture of reactant liquid and reactant gas via baffling from a point adjacent the side wall perforations in said housing to the inlet of the fixed bed catalyst by means of baffles extending from the top to at least the bottom portion of said housing', and then, reacting the mixture of reactant gas and reactant liquid.

Boger teaches a reaction system ,as illustrated in Figure 9:

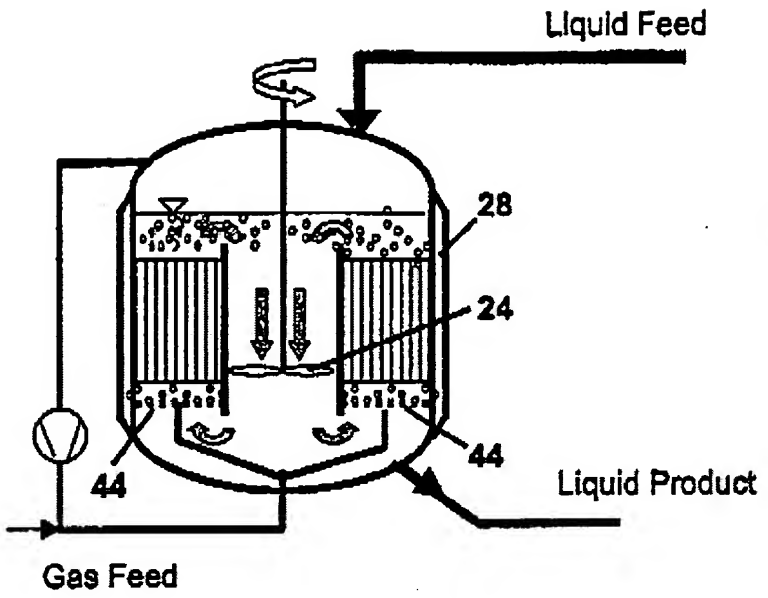


Fig. 9

Boger teaches that the reactor is suitable for hydrogenation. See, for example paragraph 0048.

The difference between the process set forth in Boger and the process covered by the rejected claims is that Boger does not specifically teach those nitroaromatic compounds set forth in the claims. However, one of ordinary skill would have been motivated to modify the disclosure of Boger to include hydrogenation of the specifically claimed nitroaromatic compounds since Boger teaches that the disclosed apparatus is suitable for hydrogenation reactions, and those of ordinary skill would necessarily include hydrogenation of the claimed nitroaromatic compounds.

Therefore, the rejected claims are prima facie obvious in view of Boger since the reference teaches the claimed process with a reasonable expectation of success.

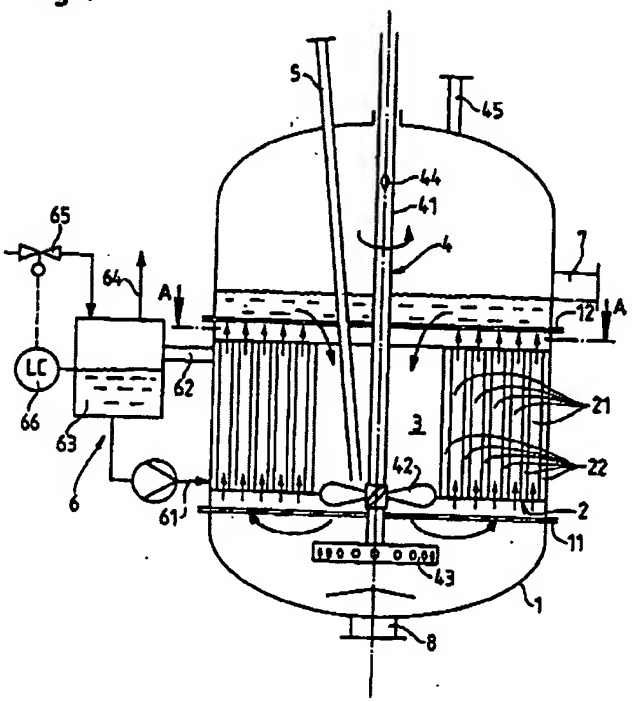
Claims 8-12 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,779,995 to Witt et al. (Witt).

The claims of the application are drawn to, inter alia, a process for carrying out a reaction between a reactant gas and reactant liquid in a stirred tank having at least a portion of reactant gas residing in a headspace portion of said autoclave, the improvement which comprises: inserting a fixed bed catalyst holder in said tank comprised of a housing having an open top and open bottom portion supportably maintained with said tank, said housing having a substantially outwardly extending, horizontal baffle near its top portion and adapted for substantial sealing engagement with the interior wall of said tank, said baffle having a least one perforation in its surface, and said housing having at least one side wall perforation in the wall near its upper portion permitting flow from the interior of the housing to said tank; supportably retaining a fixed bed catalyst within said housing permitting both liquid and reactant gas flow therethrough, extending an agitator shaft into said substantially adjacent the tank and terminating in a turbine blade side wall perforation in the wall of said housing, said agitator haying a gas passageway including an opening in the headspace portion of said autoclave and terminating in an opening adjacent the turbine blade; effecting agitation at a point adjacent the side wall perforation in

the wall of said housing causing liquid and reactant gas to be passed from the interior of the housing through the perforations to the interior of the autoclave', drawing reactant gas hydrogen from the headspace in said autoclave through a passageway in said agitator to a point adjacent the turbine', forcing a mixture of reactant liquid and reactant gas via baffling from a point adjacent the side wall perforations in said housing to the inlet of the fixed bed catalyst by means of baffles extending from the top to at least the bottom portion of said housing', and then, reacting the mixture of reactant gas and reactant liquid.

Witt teaches a reaction system illustrated, for example, in Figure 1:

Fig. 1



Witt teaches that the sludge phase reactor according to the invention and having a gassing agitator is particularly suitable for performing the sludge phase

hydrogenation of aromatic nitro compounds, particularly preferably for the hydrogenation of dinitrotoluenes with the production of the corresponding diamines. See column 2, lines 30-35.

The difference between Witt and the claimed inventions is that Witt does not teach the invention with particularity so as to amount to anticipation (See M.P.E.P. § 2131: "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).). However, based on the above, Witt teaches the elements of the claimed invention with sufficient guidance, particularity, and with a reasonable expectation of success, that the invention would be *prima facie* obvious to one of ordinary skill (the prior art reference teaches or suggests all the claim limitations with a reasonable expectation of success. See M.P.E.P. § 2143).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl J. Puttlitz whose telephone number is (571) 272-0645. The examiner can normally be reached on Monday-Friday (alternate).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571) 272-0646.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist.

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